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Docket No.: 10992292-1
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Gregg S. Goyins et al.

Application No.: 09/497,021

Confirmation No.: 6980

Filed: February 1, 2000

Art Unit: 2629

For: HIGH PERFORMANCE SWITCHABLE
POLARIZERS FOR OPTICAL PROJECTION
DISPLAYS AND CIRCUITS FOR DRIVING
THE POLARIZERS

Examiner: K. M. Nguyen

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ATTENTION: BOARD OF PATENT APPEALS AND INTERFERENCES

Dear Sir:

As required under § 41.41(a)(1), this Reply Brief is being submitted within two months of the Examiner's Answer dated December 22, 2006, and is in furtherance of the Second Appeal Brief of October 3, 2006. No fee is required for this Reply Brief.

This Reply Brief contains the following headings:

I.	Status of Claims	2
II.	Grounds of Rejection to be Reviewed on Appeal.....	2
III.	Argument	2
IV.	Conclusion	8

I. STATUS OF CLAIMS

The status of claims remains as identified in the Second Appeal Brief submitted October 3, 2006, wherein claims 1-28 are on appeal.

II. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed of appeal remain as identified in the Second Appeal Brief submitted October 3, 2006.

III. ARGUMENT

Appellant respectfully traverses the outstanding claim rejections and requests that the Board reverse these rejections in light of the remarks presented below. Appellant hereby reasserts the arguments presented in the Second Appeal Brief of October 3, 2006 (hereinafter *Second Appeal Brief*). For brevity, however, Appellant does not repeat every one of those arguments in their entirety herein. Rather, Appellant submits the following selected remarks in reply to the Examiner's Answer of December 22, 2006 (hereinafter *Examiner's Answer*).

A. First Ground of Rejection

The Examiner has not presented any new arguments with respect to the 35 U.S.C. § 102(b) rejection of claims 1, 11, 20, and 24-28 over *Kahn*, and has not otherwise addressed several of Appellant's remarks set forth in the *Second Appeal Brief*. See *Examiner's Answer* at pp. 18-21. Appellant maintains that *Kahn* does not disclose the features recited in these claims. *Second Appeal Brief* at pp. 6-10.

Claim 1 recites, in part, "a layer of liquid crystal material positioned between the first and second electrodes . . ." Contrary to the Examiner's prior assertions, *Kahn*'s busbars 35-1 and 35-2 do not meet the claimed electrodes because there is not a layer of liquid material positioned between them. *Kahn* at col. 3, ln. 62—col. 4, ln. 14; and col. 5, ln. 36—col. 6, ln. 7. As previously noted, *Kahn*'s busbars are on a plane that is perpendicular to the plane defined by

Kahn's liquid crystal material 20. *Id.* Therefore, *Kahn*'s busbars 35-1 and 35-2 are not arranged as required by claim 1. *See In re Bond*, 910 F.2d at 832.

Even if the Board finds that *Kahn*'s conductive layers 22 and 25 (rather than busbars 35-1 and 35-2) have layer of liquid crystal material 20 positioned therebetween, Appellant respectfully asserts that these conductive layers do not meet the claimed electrodes either. Specifically, claim 1 recites that "the first electrode conducts current between said first set of contacts to heat the polarizer, **and** [that] the second electrode conducts current between said second set of contacts to heat the polarizer" (emphasis added). Meanwhile, *Kahn* only teaches "passing a current pulse **in one of** the conductive layers adjacent to the liquid crystal layer to heat the liquid crystal molecules . . ." *E.g.*, *Kahn* at col. 4, lns. 65-68 (emphasis added). Thus, according to *Kahn*, only one of its conductive layers conducts current at a time, whereas claim 1 requires that the electrodes on both sides of the liquid crystal layer conduct current at the same time. Therefore, the identical invention is not anticipated by *Kahn* as defined by the structural limitations as arranged in claim 1. *See Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

Appellant notes that the Examiner again seems to rely upon inherency in support of this rejection. *See Examiner's Answer* at p. 18. However, "[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic **necessarily** flows from the teachings of the applied prior art." *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). In this case, the Examiner has repeatedly invoked inherency in the abstract, without even attempting to explain why the features missing from *Kahn* are believed to be necessarily present in that reference. Applicant respectfully asserts that *Kahn* does not teach, either expressly or impliedly, that a layer of liquid crystal material is positioned between a first and second electrodes with the first and second electrodes both conducting current to heat a polarizer, as recited in claim 1.

The Examiner further maintains that the only difference between the claims and the cited art is in functional language. *Examiner's Answer* at p. 19. However, it should be noted that a “switchable polarizer for optical projection displays, . . . comprising: a first electrode having a first set of contacts; a second electrode having a second set of contacts; and a layer of liquid crystal material positioned between the first and second electrodes . . .,” as recited by claim 1 is not functional language. Rather, it recites structural features. Again, the Examiner's assertion of functional language and inherency is misplaced, unfounded, and unsupportable. *See Second Appeal Brief* at p. 7.

Appellant believes that similar remarks apply to the rejection of claims 20 and 24. Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 102(b) rejection of claims 1, 11, 20, and 24-28.

B. Second Ground of Rejection

The Examiner has not presented any new arguments with respect to the 35 U.S.C. § 102(b) rejection of claims 13, 14, and 16 over *Franklin*, and has not otherwise addressed several of Appellant's remarks set forth in the *Second Appeal Brief*. *See Examiner's Answer* at pp. 21 and 22. Appellant maintains that *Franklin* does not disclose the features recited in these claims. *Second Appeal Brief* at pp. 10 and 11.

Claim 13 recites, in part, that “during a first driving mode, the electrodes heat the liquid crystal material, while during the second driving mode, the electrodes do not heat the liquid crystal material.” The Examiner has discussed the operation of *Franklin*'s electrodes at length. *Examiner's Answer* at pp. 21 and 22. However, the Examiner still ignores the fact that *Franklin*'s electrodes 13 and 17 do not heat fluid 15. Rather, *Franklin* teaches the use of a dedicated LCD heater 19 for that purpose. *Franklin* at col. 5, ln. 24—col. 6, ln. 34.

In addition, claim 13 also recites, in part, “drawing equal currents through the first and second electrodes during the first driving mode” Appellant has previously asserted that *Franklin* does not teach drawing equal currents. *Second Appeal Brief* at p. 11. In fact, *Franklin*

teaches the exact opposite—*i.e.*, that its electrodes must draw different currents. *Franklin* at col. 2, lns. 48-53. Incidentally, the Examiner has yet to address this argument. *See Examiner's Answer* at pp. 21 and 22.

Therefore, the identical invention is not anticipated by *Franklin* as defined by the structural limitations as arranged in claim 13. *See Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 102(b) rejection of claims 13, 14, and 16.

C. Third Ground of Rejection

The Examiner has not presented any new arguments with respect to the 35 U.S.C. § 103(a) rejection of claims 1-10 and 10-22 over *Franklin* in view of *Ando*, and has not otherwise addressed several of Appellant's remarks set forth in the *Second Appeal Brief*. *See Examiner's Answer* at pp. 22-24. Appellant maintains that this combination of references fails to teach or suggest every feature recited in the claims. *Second Appeal Brief* at pp. 12-15.

Claim 1 recites, in part, that “the first electrode conducts current between said first set of contacts to heat the polarizer, and wherein the second electrode conducts current between said second set of contacts to heat the polarizer.” The Examiner still relies solely upon *Franklin* as teaching or suggesting this element. *Examiner's Answer* at p. 23. However, the only current taught by *Franklin* flows from electrodes 13 and 17 to heater 19, without using a set of contacts in either electrode. *See Second Appeal Brief* at pp. 12 and 13. Appellant also asserts that *Ando* does not meet these claimed elements, and points out that the Examiner has not relied upon *Ando* as such. Therefore, combination of *Franklin* with *Ando* does not teach or suggest all the elements recited in claim 1. *See In re Royka*, 490 F.2d 981.

Claim 20 recites, in part, that “said set of electrodes . . . are operable to conduct sufficient current to control a temperature of said layer of liquid crystal.” *Franklin* does not teach or suggest this feature of claim 20 because *Franklin* teaches striving for zero current. *Franklin* at col. 5, lns. 1-23; col. 7, lns. 53-58. As such, *Franklin* does not teach or suggest an amount of the

current can heat a liquid crystal layer. *See Second Appeal Brief* at p. 20. Appellant also asserts that *Ando* does not meet these claimed elements, and points out that the Examiner has not relied upon *Ando* as such. Therefore, combination of *Franklin* with *Ando* does not teach or suggest all the elements recited in claim 20. *See In re Royka*, 490 F.2d 981.

Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 103(a) rejection of claims 1-10 and 10-22.

D. Fifth Ground of Rejection

The Examiner has not presented any new arguments with respect to the 35 U.S.C. § 103(a) rejection of claims 17-19 over *Kahn* in view of *Franklin* and *Kato*, and has not otherwise addressed several of Appellant's remarks set forth in the *Second Appeal Brief*. *See Examiner's Answer* at pp. 24 and 25. Appellant maintains that this combination of references is improper. *Second Appeal Brief* at pp. 16 and 17. Furthermore, even if the Board finds that this combination is proper, Appellant submits that the combination fails to teach or suggest every feature recited in the claims. *See id.* at pp. 17 and 18.

As Appellant has previously pointed out, *Franklin* expressly teaches that the DC current between its LCD electrodes and its heater should be as close to zero as possible, otherwise the resulting current would damage the LCD. *Franklin* at col. 2, lns. 17-26; and col. 5, lns. 1-23. In fact, *Franklin* expressly states that:

it is important in LCDs that the net DC component between the front and rear electrodes be maintained as close to zero as possible so as to prevent the LCD from failing.

Franklin at col. 5, lns. 20-23 (emphasis added); and that:

[t]he use of the integral heater 19 with conventional heater power supplies results in LCD failure caused by a DC current path established between the LCD electrodes and the integral heater.

Franklin at col. 5, lns. 20-23 (emphasis added). Therefore, modifying the system of *Kahn* to

include a DC source between *Kahn*'s electrodes would cause the resultant device to fail. *See Second Appeal Brief* at pp. 16 and 17. Therefore, the proposed combination of references would render the *Kahn* unsatisfactory for its intended purpose, and as such it is improper. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

In addition, claim 17 recites, in part, "a layer of liquid crystal material positioned between the first and second electrodes." As previously noted, the combination of *Kahn*, *Franklin*, and *Kato*, even if proper, fails to teach or suggest at least this feature of claim 17. *Second Appeal Brief* at pp. 17 and 18.

Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 103(a) rejection of claims 17-19.

E. Eighth Ground of Rejection

The Examiner has not presented any new arguments with respect to the 35 U.S.C. § 103(a) rejection of claim 24 over *Franklin* in view of *Giallorenzi*, and has not otherwise addressed several of Appellant's remarks set forth in the *Second Appeal Brief*. *See Examiner's Answer* at p. 25. Appellant maintains that this combination of references is improper. *Second Appeal Brief* at p. 19. Furthermore, even if the Board finds that this combination is proper, Appellant submits that the combination fails to teach or suggest every feature recited in the claims. *See id.* at p. 20.

As previously noted, the Examiner states that the combination of *Franklin* with *Giallorenzi* would be desirable because *Giallorenzi*'s electrical current would achieve the "benefit" of driving an LCD. *Examiner's Answer* at p. 17. However, Appellant maintains that a person of ordinary skill in the art would not be motivated to look to *Giallorenzi* to modify *Franklin* because *Franklin* already provides such "benefit" without modification—i.e., *Franklin* is designed to drive an LCD display, even in the absence of *Giallorenzi*. *See e.g.*, *Franklin* at col. 4, lns. 22-68. Therefore, the combination of references is improper.

In addition, claim 24 recites, in part, “driving a set of electrodes to cause current to flow through said set of electrodes to sufficiently heat a liquid crystal layer of said liquid crystal polarizer to control a temperature of said liquid crystal layer.” Again, *Franklin* does not teach or suggest this feature because *Franklin* teaches striving for zero current. *Franklin* at col. 5, lns. 1-4. As such, *Franklin* does not teach or suggest an amount of the current can heat a liquid crystal layer. *See Second Appeal Brief* at p. 20. Accordingly, the above-recited feature of claim 24 is not taught or suggested by *Franklin*. The Examiner does not rely on *Giallorenzi* to teach or suggest the feature, nor does *Giallorenzi* teach or suggest the feature. Therefore, the combination of *Franklin* with *Giallorenzi*, even if proper, fails to teach or suggest at least this feature of claim 24.

Accordingly, Appellant respectfully requests the reversal of the 35 U.S.C. § 103(a) rejection of claim 24.

IV. Conclusion

In view of the above, Appellant requests that the Board overturn the outstanding claim rejections.

Dated: February 20, 2007

Respectfully submitted,

By _____

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